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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,466	11/03/2003	Kyo Ho Moon	049128-5048-01	1849

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EXAMINER

GUERRERO, MARIA F

ART UNIT PAPER NUMBER

2822

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,466

Applicant(s)

MOON ET AL.

Examiner

Maria Guerrero

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/005,867.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the preliminary amendment filed November 3, 2003.

Status of Claims

2. Claims 1-18 are canceled. Claims 19-27 are pending.

Information Disclosure Statement

3. The information disclosure statements filed November 3, 2003 and October 13, 2003 have been considered.

Priority

4. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/005,867, filed on December 7, 2001.

Specification

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant admitted prior art in view of Rho et al. (US 6,057,896).

Applicant admitted prior art shows forming an organic protective film on a substrate, forming a first alignment film, detecting at least one irregularity on the first alignment film, eliminating the first alignment film and forming a second alignment film (Figs. 4-5, page 5-6). Applicant admitted prior art discloses eliminating the first alignment film includes dry etching rework processing using at least one compound gas of SF₆, O₂, O₂+Cl₂ and CF₄ (Figs. 4-5, page 5).

Furthermore, Applicant admitted prior art describes forming a gate line and a gate electrode on the substrate, forming a gate insulating film on the gate line, the gate electrode and the substrate (Figs. 1-3E). Applicant admitted prior art teaches forming a semiconductor layer on the gate insulating film and forming a data line, a source electrode and a drain electrode on the gate insulating film (Fig. 1-3E). Applicant admitted prior art shows forming a pixel electrode to overlap at least one of the data line and the gate line (Figs. 1-2, pages 3-4).

Applicant admitted prior art does not specifically show forming a silicon nitride layer on the organic protective film. However, Rho et al. teaches forming a silicon nitride layer on the organic protective film in order to better protect the lower layer (Figs. 3-11, col. 6, lines 50-64, col. 7, lines 1-5, col. 9, lines 62-67, col. 10, lines 1-5, 25-35). Rho et al. shows the silicon nitride layer having a different etch rate compared to the organic protective film and compared to an organic film formed on the silicon nitride layer (Figs. 8-11, col. 5, lines 59-62, col. 7, lines 1-5).

Regarding the specific concentration claimed, one of ordinary skill in the art would have found it prima facie obvious at the time of the invention to select the concentration merely by following the teachings of the reference. In this regard, it is well settled that it is not inventive to determine (by mere routine experimentation) the optimum values of a result-effective variable. In re Peterson, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382 (Fed. Cir, 2003) ("The normal desire of scientist or artisans to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980)

("Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); In re Aller 220 F. 2d 454, 456, 105 USPQ 233, 235, (CCPA 1955)("Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Applicant admitted prior art by including the step of forming the silicon nitride as taught by Rho et al. in order to better protect the device and to avoid leakage current (Rho et al., 60-63).

Double Patenting

7. The Non-Statutory Double Patenting Rejection in view of US Patent No. 6,844,906 has not been applied because this is a divisional application as a result of a restriction requirement made in a parent application 10/005,867 (US 6,683,668). Generally, a double patenting rejection is not permitted where the claimed subject matter is presented in a divisional application as a result of a restriction requirement made in a parent application under 35 U.S.C. 121.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is 571-272-1837.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 16, 2005

Maria Guerrero
MARIA F. GUERRERO
PRIMARY EXAMINER